

Remarks

The Office Action dated May 13, 2010 ("the Office Action"), has been received and carefully reviewed. The preceding amendments and the following remarks form a full and complete response thereto. Claims 16 and 17 are amended as to matters of form only. No new matter is added. All pending claims are submitted for reconsideration.

Rejections under 35 U.S.C. § 103

Claims 15-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No 6,780,263 issued to Delisle ("Delisle") in view of U.S. Patent No 5,749,987 issued to Wannebo ("Wannebo"). Applicants respectfully traverse this rejection and submit that claims 15-17 recite features that are neither disclosed by these references, nor would have been made obvious to a person having ordinary skill in the art in light of these references. Claim 15 recites a manufacturing method for a hermetic plastic zipper. Among other features, the hermetic plastic zipper includes a pair of engaging portions formed on the surfaces of plastic films, and a readily peelable plastic layer prolonging in a lengthwise direction of the plastic zipper at the engaging portions or in the neighborhood thereof. The method includes inserting the portion of the plastic zipper where the readily peelable plastic layer exists between an

ultrasonic horn and an anvil, and thereby welding the readily peelable plastic layer continuously in a lengthwise direction of the zipper. Furthermore, the distance L between the ultrasonic horn and the anvil is uniformly held at a distance of $H \geq L \geq 0.85H$ (wherein H stands for a maximum thickness of the plastic zipper under the engaged state).

Delisle discloses a method and apparatus for producing zippered bags. Delisle, Abstract. Delisle discloses that a folded web 2 (i.e., the bag making film) and zipper tape 8 are heat sealed to each other with electrically heated sealing bars.

Id. at col. 3, l. 43 to col. 4, l. 18. Delisle explicitly teaches that the temperature of the sealing bars must be selected such that the zipper tape will be sealed to the bag making film without “seal-through” of the zipper flanges, i.e., sealing of the zipper flanges to each other. Id. at col. 6, l. 61 to col. 5, l. 4. Additionally, Delisle discloses a rotary ultrasonic apparatus including a horn 26 and an anvil 28. Id. at col. 5, ll. 11-12. The horn 26 is a rotary element acoustically coupled to an ultrasonic transducer Id. at col. 5, ll. 42-43. The rotary anvil 28 comprises a protuberance or land 30 that projects radially outward from a circular cylindrical peripheral surface. Id. at col. 5, ll. 47-50. A weld 32 is made on the zipper tape each time the protuberance 30 passes through the gap between the rotating horn 26 and anvil 28 and presses the zipper tape. Id. at col. 5, ll. 50-52. That is, the ultrasonic welds will be spaced at regular intervals (e.g., approximately equal

to the circumference of the anvil) along the zipper tape 8. Id. at col. 6, ll. 15-22. Wannebo discloses a method and device for controlling the power intake of an ultrasonic welding unit. Wannebo, Abstract. Wannebo teaches that the welding power delivered can be regulated by controlling the mean distance of the ultrasonic horn from the anvil. Id. at col. 1, ll. 40-47. Wannebo discloses that the distance between the horn and the anvil can be adjusted using horn moving means, e.g., a gear meshed with a vertically moveable rack. Id. at col. 2, ll. 32-44. During operation, a computer controls the horn moving means, continuously increasing or decreasing the distance between the horn and the anvil to accommodate changes in the power intake of the welding unit. Id. at col. 4, ll. 1-22.

Claim 15 is patentable over the combination of Delisle and Wannebo at least because claim 15 recites features that are neither disclosed by this combination of references, nor would have been obvious to a person having ordinary skill in the art in view of this combination of references. For example, neither Delisle nor Wannebo disclose or suggest a method for manufacturing a hermetic plastic zipper as recited in claim 15. Delisle specifically teaches away from sealing (hermetically or otherwise) the zipper components together (“seal-through”). Delisle at col. 4, l. 61 to col. 5, l. 4. Furthermore, the ultrasonic welding of Delisle only occurs at spaced intervals along the zipper tape (e.g., corresponding to the

separation points between individual bags). Delisle at col. 2, ll. 1-3, 16-18, 31-33, 42-45, etc. In other words, Delisle's ultrasonic welding does not occur continuously in a lengthwise direction of the zipper, but rather occurs intermittently, with unwelded portions in between. This intermittent welding cannot obtain a hermetic plastic zipper as required by claim 15. Similarly, in Wannebo, ultrasonic welding does not occur continuously in a lengthwise direction of the zipper but occurs intermittently, corresponding to the spacing pattern of the anvil forming projections. See Wannebo at col. 2, ll. 20-31 and FIG. 1, element(s) 4. At least because neither reference discloses or even suggests a manufacturing method for a hermetic plastic zipper, Applicants respectfully submit that the rejection under 35 U.S.C. § 103(a) should be withdrawn.

Furthermore, neither of these references discloses or suggests the feature of claim 15 related to the plastic zipper comprising a readily peelable plastic layer prolonging in a lengthwise direction of the plastic zipper at the engaging portions or in the neighborhood thereof. Therefore, logically, neither reference can disclose or suggest the features of claim 15 related to inserting the portion of the plastic zipper where the readily peelable plastic layer exists between an ultrasonic horn and an anvil and welding the readily peelable plastic layer continuously in a lengthwise direction of the zipper. At least because none of

these features related to the readily peelable plastic layer are disclosed or even suggested by the cited combination of references, Applicants respectfully submit that the rejection under 35 U.S.C. § 103(a) should be withdrawn.

Irrespective of what the cited art discloses or fails to disclose vis-à-vis the features of claim 15 related to the readily peelable plastic layer, in its rejection of claims 15-17 the Office Action does not appear to consider or even mention any of these features. Office Action, pages 3-4. Applicants submit that the rejection under 35 U.S.C. § 103(a) is therefore improper and should be withdrawn for at least this additional reason. Cf. MPEP 2143.03 (“All words in a claim must be considered in judging the patentability of that claim against the prior art.”) (citing In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)).

Furthermore, neither of the cited references discloses or suggests the feature of claim 15 related to holding the ultrasonic horn and the anvil at a uniform distance of $H \geq L \geq 0.85H$ (wherein H stands for a maximum thickness of the plastic zipper under the engaged state). The Office Action concedes that this feature is not disclosed by Delisle. Office Action, page 3. Rather, the Office Action argues that this feature is disclosed by Wannebo, because “it appears that the distance between the horn and anvil is about the same as the thickness of the materials 5 and 6 being welded which meets the limitation of $H \geq L \geq 0.85H$.” Applicants respectfully disagree. Wannebo does not disclose holding the ultrasonic horn

and the anvil at a uniform distance, and in fact teaches away from this feature.

Wannebo is specifically directed to a method for changing (not holding uniform) the distance between the ultrasonic horn and anvil to correct for variations in the welding power. See Wannebo at col 1, ll. 40-47 and col. 4, l. 1-22. Furthermore, as illustrated in Fig. 1 of Wannebo, the anvil 3 has a number of anvil forming projections 4 on its peripheral surface. See also Wannebo, col. 2, ll. 20-23. As the anvil rotates and the anvil forming projections move with respect to the ultrasonic horn, the distances between the ultrasonic horn and anvil and horn will vary (i.e., the distance is not held uniform), even if the horn-moving means are not utilized. At least because none of the references disclose the feature of claim 15 related to holding the ultrasonic horn and the anvil at a uniform distance, Applicants respectfully submit that the rejection under 35 U.S.C. § 103(a) should be withdrawn.

Claim 15 is patentable over the combination of Delisle and Wannebo at least because these references fail to disclose or suggest the features of claim 15 related to manufacturing a hermetic plastic zipper, welding a readily peelable plastic layer continuously in a lengthwise direction of the zipper, and holding the ultrasonic horn and the anvil at a uniform distance. Claims 16 and 17 are dependent on claim 15, and incorporate all of the features recited therein, including those not disclosed or suggested by this combination of references.

Therefore claims 16 and 17 are also patentable over the combination of Delisle and Wannebo for at least similar reasons as claim 15, in addition to the novel features that claims 16 and 17 recite individually. Accordingly, Applicants respectfully submit that the rejection of claims 15-17 under 35 U.S.C. § 103(a) be withdrawn.

Rejections under 35 U.S.C. § 112

Claims 16 and 17 were rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicants have amended these claims to address the Examiner's concerns. Accordingly, Applicants respectfully request that this rejection under 35 U.S.C. § 112, second paragraph, be withdrawn.

In view of the above, all objections and rejections have been sufficiently addressed. The Applicants submit that the application is now in condition for allowance and request that claims 15-17 be allowed and this application passed to issue.

In the event that this paper is not timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together

with any additional fees may be charged to Counsel's Deposit Account No.

02-2135.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

Respectfully submitted,

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